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No 4

Great Western Railway.

SPECIFICATION

OF A

FOUR-WHEELED

IRON TILT WAGGON,

WITH

BROTHERHOOD'S

PATENT TILT COVERS.

January 10*th*, 1852.

Great Western Railway.

SPECIFICATION

OF A

Four-wheeled Iron Tilt Waggon, with Brotherhood's Patent Tilt Covers.

General Dimensions.

	Ft.	In.
Length over under-frame	17	6
Width over do.	9	8½
Length inside	17	0
Width inside	9	8¼
Height from floor to top of tilt ends in centre	8	0
Height from rails to centre of buffers	3	0
Width from centre to centre of journals	8	5¼
Length of springs from centre to centre of brackets	3	0

Framing, &c.

The exterior side and end frames to be of angle iron 8-inches deep by 4½-inches wide, according to the full-sized section. The internal transverse bearers to be of 8-inch by $\frac{9}{16}$-inch rolled bars, with a 1½-inch by 1½-inch angle iron, rivetted on each side, as shewn. The end frames to butt against the side frames, and be secured by strong corner brackets and triangular lap plates $\frac{3}{16}$-inch thick; the ends to have a 7-inch by 4½-inch elm plank fitted and bolted to them, as shewn.

The transverse bearers to be secured to the sides by angle brackets $\frac{5}{8}$-inch thick, and triangular lap plates $\frac{3}{16}$-inch thick, as shewn.

Diagonal tie plates, 6-inches by $\frac{3}{16}$-inch, to be rivetted to the top flanges of the transverse bearers and the corner top plates, as shewn.

Axle Guards, &c.

The axle guards to be of best bar iron, 2½-inches by $\frac{7}{8}$-inch, bent and welded to the form shown, in one piece with the spring brackets, and securely rivetted to the side frames. The spring brackets and spring stops to be clean and well made, and forged in one piece with the axle guards. The axle guards and stay rods to be shouldered and accurately fitted to the horns, and bolted thereto.

Buffing and Drawing Apparatus.

The buffer springs to be of vulcanised India-rubber rings, fitted into cast iron boxes, with rods, heads and disc plates, as shewn by the detail drawing.

The draw bars to be fitted with vulcanised India-rubber springs, slides and nuts, as shewn by the detail drawing. The chains to be of best cable iron 1⅜ inches diameter, the shackels and pins of the same description of iron, and 1½-inches diameter.

Flooring, &c.

The floor to be of 2-inch memel plank, in single lengths, the planks over the buffers to be carried out beyond the framing with a corresponding plank underneath for bolting the buffers between, and so arranged as to receive the blow when the buffers are driven home.

Sides and Ends.

The sides and ends to be covered with wrought iron plates $\frac{3}{16}$-in., well rivetted to the stauncheons and the side and end frames by angle irons.

The end stauncheons to be of T. iron, the door stauncheons to be of flat round iron, fixed inside, kneed as shown. The sides to be of the height shown, with top angle iron and top rails. The flaps to be hinged and have chains, fastenings and bars as shewn.

The ends to be semicircular, and the roof to be covered with Brotherhood's Patent Tilt Covers, fitted in the most approved manner, and covered with No. 5 best long flax canvas, dressed with four coats Brigg's oil dressing.

Axle Boxes.

The axle boxes to be clean, sound and well made castings, in every respect according to the detail drawings. The grease box covers to be strong, well made and closely fitted.

The bearings to be of "Vaucher's" patent metal, sound, well made and well bedded into the axle boxes, and fitted to the journals of the wheels. The grease holes in the axle boxes, and in the bearings, to be accurately formed to meet each other as shewn. The spring clips to be clean and well to ged, filed and fitted to their places, the holes in the axle boxes to be rimered out true to receive them.

Side Springs.

The side springs to have seven plates, each 4-inches wide—the top and bottom plates to be $\frac{1}{2}$-inch thick, the others $\frac{7}{16}$-inch thick, to be of the length, width and camber shown on the drawings, with a centre bolt, with turned head, each to sustain a load of 3½ tons, with 2½-inch deflection, and warranted against breakage or loss of camber for 12 months after date of delivery.

Painting.

The whole to be painted three coats brown and to have the Company's initials—the number and weight painted on each side in large white letters and figures.

Materials General and Observations, &c.

The Company will supply the wheels and axles, and deliver them to the Contractor at any station on the Railway. The whole of the materials to be of the best description of their respective kinds—the iron framing clean rolled and free from flaws accurately fitted and strongly rivetted together, the detail parts to be clean and well made, and filed to shape. The framing to be accurately square and straight and the whole of the detail parts fixed equidistant from the centre line.

The wood-work to be sound, dry, and free from any defects.

The whole to be put together in a substantial and workmanlike manner, to the satisfaction of the Company's Engineer, who shall have full power to reject all or any such waggons as are not in full accordance with the spirit and intention of this Specification, as respects materials and workmanship, and be delivered complete and ready for use (free of charge) on the rails at any of the Stations on the Great Western Railway in equal numbers in May, June and July 1852, and if not so delivered complete and ready for use within the above periods respectively the Contractor shall forfeit to the Company as damages twenty shillings per waggon per week for each week he shall exceed the time specified for delivery.

No advantage to be taken of any omission of details in the drawings, or in this Specification, as full explanation in detail will be given, should any part not be sufficiently shown or understood.

The terms and conditions of payment to be specified in the Tender.

FORM OF TENDER.

_____

of _____

_____ do hereby engage to construct and deliver

_____ Waggons, according to the foregoing Specification, and the

Drawings therein referred to, for the sum of _____

_____ for each Waggon;

to be delivered by _____

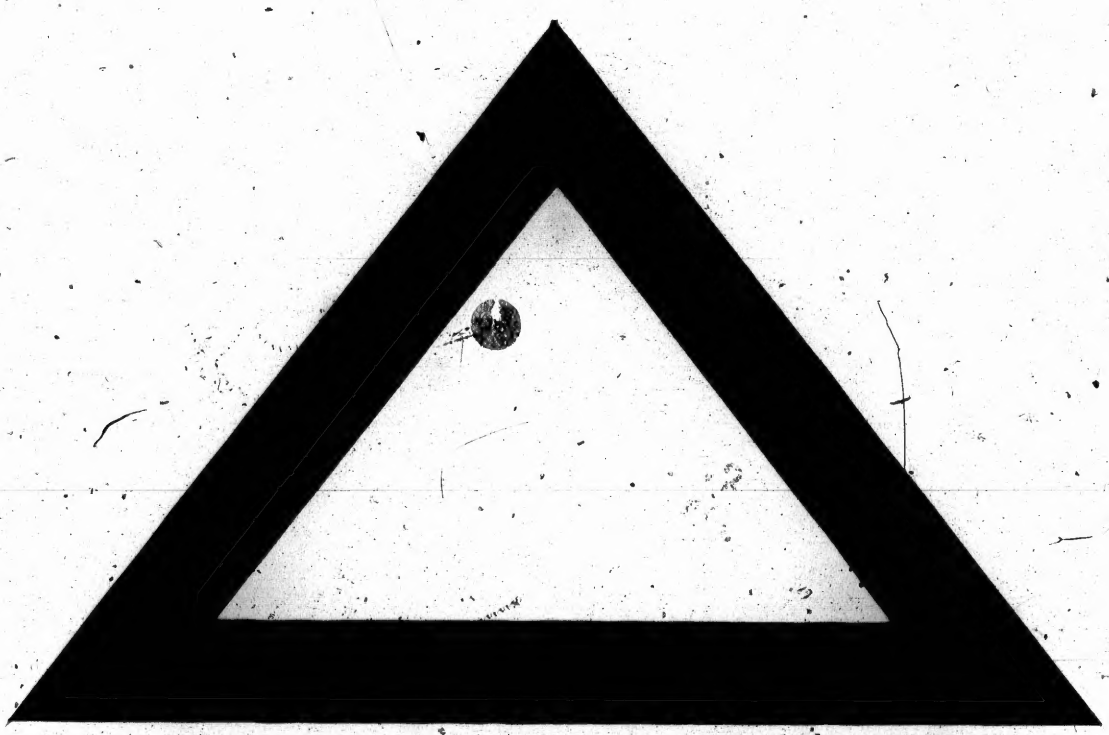
_____

_____

Payments to be made as follows:

Name _____

Address _____

Date _____

NOTE.—The Form of Tender must NOT be detached from the Specification.